

REMARKS

Claims 1 and 3-8 are pending herein.

I. The § 112 rejections of claims 2, 4, and 6, as noted on page 2 of the Office Action.

Applicants respectfully note that the limitations of claim 2 have been incorporated into independent claim 1. Accordingly, the § 112 rejections of claim 2 have been addressed in the relevant portions of independent claim 1.

For example, the amendments to claim 1 claim a “precursory gas middle line” and/or “a reactive gas middle line.” Claim 4 is similarly amended.

Regarding claim 6, Applicants respectfully note that the phrase “a concentration adjusting device” has been changed to “concentration adjusting devices.”

Thus, it is respectfully asserted that the § 112 rejections have been overcome.

II. The anticipation rejections of claims 1-5 and 8 based on Fujioka (US 5,180,684), as noted on page 3 of the Office Action.

The USPTO respectfully rejects claims 1-5 and 8 under 35 U.S.C. § 102(b). Claim 1 is an independent claim. Claim 2 is cancelled.

A. Fujioka does not disclose the specifically claimed precursory gas middle line or the specifically claimed reactive gas middle line, as claimed in claim 1.

Claim 1 claims in relevant part:

“a **precursory gas middle line** having a ~~certain predetermined~~ volume that is arranged on a part or all of the precursor supplying line and **into which the precursory gas can be filled at a time when the precursory gas is not supplied, and/or a reactive gas middle line** having a certain volume that is arranged on a part or all of the reactive gas supplying line **and into which the reactive gas can be filled at a time when the reactive gas is not supplied.**” (emphasis added)

No new matter is added by the amendments. Support for the amendments is found in present Figure 1 and pages 8-9 of the present specification. Regarding these limitations, it is respectfully not seen where Fujioka discloses the claimed structure quoted above.

For example, the USPTO respectfully argues on page 4 of the Office Action that Figure 6 of Fujioka shows a precursory gas middle line at the piping between structures 13 and 15 and a reactive gas middle line at the piping between structures 13 and 14.

However, Applicants respectfully assert that this piping between structures 13 and 15 and 14 and 15 cannot be the specifically claimed precursory gas middle line or the specifically claimed reactive gas middle line, as claimed in claim 1. For example, in Fujioka, pump 16 lies downstream of the line that is connected to MFC 9. Thus, the piping between 13 and 15 and the piping between 13 and 14 is sucked by pump 16, and gas flows from MFC 9, 10, 11, or 12, to pump 16. Therefore, **the piping between 13 and 15 and the piping between 13 and 14 cannot be filled with the precursory gas or the reactive gas at a time when the precursory gas or the reactive gas is not supplied.** Accordingly, it is respectfully asserted that Fujioka does not disclose the specifically claimed precursory gas middle line or the specifically claimed reactive gas middle line, as claimed in claim 1.

In contrast, present Figure 1 illustrates at least one possible embodiment of the claimed structure quoted above. For example, present Figure 1 shows a reactive gas middle line 12 and a precursory gas middle line 22. As explained on pages 11-13 of the present specification, **reactive gas middle line 12 can be filled with reactive gas and precursory gas middle line 22 can be filled with precursory gas.** Thus, present Figure 1 shows a precursory gas middle line into which the precursory gas can be filled at a time when the precursory gas is not supplied, and/or a reactive gas middle line into which the reactive gas can be filled at a time when the reactive gas is not supplied, as claimed in claim 1.

The distinction noted above is important and non-trivial because it results in significant advantages over conventional devices. For example, as explained on page 2 of the Office Action, the structure of claim 1 **improves throughput during a process of forming the thin film and improves quality of the thin film.**

Thus, it is respectfully asserted that Fujioka does not disclose all of the limitations of independent claim 1. Therefore, it is respectfully asserted that Fujioka does not anticipate independent claim 1.

B. The dependent claims.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and therefore it is further respectfully asserted that dependent claims 2-5 and 8 are also allowable.

III. The obviousness rejection of claim 6 based on Fujioka in view of Ahn (US 2002/0122885), as noted on page 7 of the office Action.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and it is further respectfully asserted that Ahn does not overcome the deficiencies in Fujioka as noted above in Section II regarding independent claim 1. Thus, it is respectfully asserted that dependent claim 6 is also allowable.

IV. The obviousness rejection of claim 7 based on Fujioka in view of Udagawa (US 6,645,302), as noted on page 9 of the Office Action.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and it is further respectfully asserted that Udagawa does not overcome the deficiencies in Fujioka as noted above in Section II regarding independent claim 1. Thus, it is respectfully asserted that dependent claim 7 is also allowable.

V. Conclusion.

Reconsideration and allowance of all of the claims is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Please contact the undersigned for any reason. Applicants seek to cooperate with the Examiner including via telephone if convenient for the Examiner.

Respectfully submitted,

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